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## **Pneumonia in Immunocompromised Patients: More than Meets the Eye**

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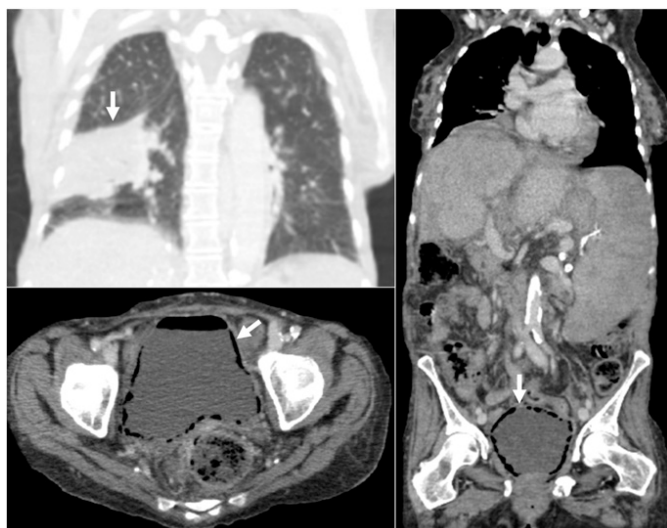
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## Pneumonia in Immunocompromised Patients More than Meets the Eye

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**Figure 1.** (Top left panel) Coronal contrast-enhanced computed tomography (CT) reveals a large alveolar condensation area in the right inferior lobe (arrow). (Bottom left panel) Axial and (right panel) coronal contrast-enhanced CT show “beaded necklace appearance” of the bladder mucosal surface in keeping with multiple diffuse cystic collections of gas within the bladder wall (arrows). This finding reflects the irregular thickening produced by submucosal blebs as seen at direct cystoscopy.

A 63-year-old patient was admitted to the ICU for severe sepsis and rapid onset of shortness of breath. She had had a liver transplant 6 years before and upon ICU admission presented with end-stage cirrhosis due to a sclerosing cholangitis relapse and type 1 diabetes mellitus. Examination led to the diagnosis of community-acquired pneumonia. *Streptococcus pneumoniae* urine antigen was found to be positive. In our department, a thoracoabdominal computed tomography (CT) scan facing sepsis in immunocompromised patients is always suggested to rule out an infection needing urgent source control. CT confirmed a right bilobar pneumonia, but incidentally showed a distended bladder with circumferential rosary-shaped pneumatosis within the wall and an intravesical hydroaeric level. The diagnosis of emphysematous cystitis was confirmed with urine culture showing  $10^7$  colony-forming units/ml amoxicillin-resistant *Escherichia coli*. Blood cultures found no bacteremia. Emphysematous cystitis is a rare condition most often encountered in elderly diabetic women (1) and favored by immunodeficiency.

Late infections are a serious threat to patients who have undergone transplant, since they are implied in up to 9% of post-liver transplant deaths, with a global incidence of 0.4 per 1,000 transplant-days (2). Urinary tract infections account for nearly 37% of late infections in solid organ transplant recipients, whereas pneumonia accounts for 11%. Treatment combining urinary catheterization, broad spectrum systemic antibiotic therapy, norepinephrine for septic shock, and strict glycemic control was immediately started. The patient ultimately recovered without surgery. Subsequent CT scans showed normalized bladder images. Thus, making the right diagnosis when treating an infection is critical in immunocompromised patients.

### References

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